

REMARKS

Applicant respectfully submits this Amendment and Response in reply to the Official Action dated February 7, 2011. Applicant submits that this Amendment and Response is fully responsive to the Official Action for at least the reasons set forth herein.

Claims 6-9 have allowable subject matter. Accordingly, claims 6-9 have been rewritten in independent form to include the subject matter of the base claim and any intervening claims. Additionally, Applicant respectfully submits new claims 38-47 for examination. These claims depend from, claims 6-9, whether directly or indirectly. Accordingly, based upon their dependency from allowable claims 6-9, Applicant submits that new claims 38-47 should be allowed.

Claim 4 has been rewritten in independent form. The dependencies of claims 10 and 11 have been amended for consistency; these claims now dependent from independent claim 4. Claims 1-3 and 13-37 have been cancelled herewith without prejudice to the subject matter of the claims.

No new matter has been added to the application by way of the aforementioned amendments and new claims. Notably, new claims 38-47 have similar subject matter as claims 10-12.

Applicant submits that all of the pending claims (including new claims 38-47) are patentable over the references cited in the Official Action.

Claims 1-3, 10-15, 22-27 and 34-37 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over the Applicant's Admitted Prior Art ("AAPA") in view of Takada, U.S. Patent No. 7,031,402. Additionally, claims 1-3, 10-15, 22-27 and 34-37 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over the Applicant's Admitted Prior Art ("AAPA")

in view of Hottinen et al., U.S. Pat. Pub. 2003/0081563. Additionally, claims 1-3, 10-15, 22-27 and 34-37 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over the Applicant's Admitted Prior Art ("AAPA") in view of Partyka, U.S. Patent No. 6,728,293. Applicant submits that each of these rejections is moot in view of the above-identified amendments. Accordingly, withdrawal of the rejections is respectfully requested.

Claims 4, 5, 16, 17, 28 and 29 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over AAPA, Takada in view of Ue et al., U.S. Patent No. 6,611,676 (hereinafter "Ue"). Similar additional rejections were made vis-à-vis Hottinen and Partyka.

For purposes of this response, Applicant will address the three rejections together. Notably, Applicant submits that the APPA and Ue in combination with either, Takada, Hottinen and/or Partyka fail to teach a scheduling means for reducing *the number of transmission sequences* when a reception quality at the receiving portion is lower than a predetermined first threshold and for increasing *the number of transmission sequences* when the reception quality is higher than a predetermined second threshold as recited in independent claim 4 (emphasis added).

At best, Ue teaches controlling or adjusting the *transmission rate* for one transmitter based upon the reception quality. Notably, Ue explicitly states:

the base station apparatus compares the reception quality measurement result reported from the communication terminal apparatus with threshold 1 (ST21) and if SIR is greater than threshold 1, **the same transmission rate** is used. If SIR is smaller than threshold 1, the **transmission rate is switched to such a transmission rate that SIR is greater than threshold 1** (ST22). In CDMA, the spreading factor is switched.

Col. 7, lines 9-16 (emphasis added).

Further, Ue states:

the base station apparatus compares the reception quality

measurement result reported from the communication terminal apparatus with threshold 2 (ST31) and if SIR is smaller than threshold 2, the **same transmission rate is used** and if SIR is greater than threshold 2, the channel condition is determined to be good and the **transmission rate is switched to a double transmission rate (1/2 spreading factor) (ST32)**. Here, threshold 2 corresponds to a **double transmission rate** and is set greater than threshold 1. Thus, while the channel condition is good, the **transmission rate is increased to transmit as much data as possible**. That is, if the condition of the communication path with the other end of communication is good, faster transmission is possible while maintaining the reception quality of the other end of communication.

Col. 7, lines 27-40(emphasis added).

Moreover, Ue describes that:

threshold n is set (ST41) and the base station apparatus compares the reception quality measurement result reported from the communication terminal apparatus with threshold n (ST42). If SIR is smaller than threshold n, threshold n is switched to threshold n+1 corresponding to the **next fastest transmission rate** (ST43). If SIR is greater than threshold n, the **nth fastest transmission rate** (spreading factor) is set (ST44). That is, the transmission rate is switched to such a **transmission rate that SIR** is set to a value between threshold n and threshold n+1 corresponding to the two transmission rates. Threshold n corresponds to the **nth fastest transmission rate** and is greater than threshold n+1. In this case, the **fastest transmission** is possible on condition that the reception quality be satisfied.

Col. 7, lines 44-57(emphasis added).

In other words, Ue clearly teaches changing the *transmission rate* based upon the reception quality to reduce interference.

In stark contrast, the claimed invention changes the *number of transmission sequences*.

In the claimed invention, the scheduler 51 determines resource assignment with reference to a reception quality measured at the receiver 3 and produces a resource assignment signal S_{LA} . Notably, the scheduler 51 adaptively controls the *number of transmission sequences* depending upon a reception quality at the receiver. For example, if the number of the transmission sequences is 4 and the number of channels is the same, frequency hopping can be hopping

patterns {#1, ...}, {#2, ...}, {#3, ...}, {#4, ...} for the transmission antenna 24 and using hopping patterns {#3, ...}, {#1, ...}, {#4, ...}, {#2, ...} for the transmission antenna 25. If the reception quality does not satisfy a required level, resource assignment to the #4 can be cancelled. Therefore, with respect to #2 and #3, one of the two channels is prevented from interference from the other transmission antenna.

On the contrary, if the reception quality is higher than the required level, the number of sequences is increased. *See* ¶¶0093-0097 of the instant application (reference ¶ numbering from patent publication).

Applicant submits that this limitation is not obvious over the cited references. Notably, without acquiescing to the Examiner's interpretation of the primary and secondary references, namely the AAPA, Takada, Hottinen and/or Partyka, these references fail to cure the above-identified deficiencies. In fact, the Examiner does not assert that these references teach or suggest this limitation.

Accordingly, since the cited references, whether taken alone or in any proper combination thereof, do not teach or render obvious each and every limitation of independent claim 4, Applicant submits that the claim is patentable over the cited references.

Applicant further submits that dependent claims 5 and 10-12 are patentable over the cited references based at least upon the above-identified analysis and their dependency, whether directly or indirectly, from claim 4.

Accordingly, withdrawal of the rejections is respectfully requested.

In view of the above, it is respectfully submitted that the subject application is in condition for allowance. Accordingly, it is respectfully requested that the subject application be allowed and a Notice of Allowability issued. If the Examiner believes that a telephone

conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,

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